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REEL # 178

GYURA, ANTAL

GYURA, Antal, dr., rendororrap

Rule and courtesy! Auto motor 17 no.1:23 6 Ja '64.

1. GYURDJIAN, H.M.
2. USSR (600)
4. Feudalism
7. Theoretical conference on the problem of feudal property, Vop.isi. no. 4, 1953.
9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

GYURDZHIAN, A. A.

USSR/Biology - Physiology

Card : 1/1

Authors : Gyurdzhian, A. A.

Title : Measurement of analyzer sensitivity toward a stimulus as result of transformation of the latter into a conditional-reflex

Periodical : Dokl. AN SSSR, 96, Ed. 6, 1273 - 1275, June 1954

Abstract : The conditional reflex formulates and determines the sensitivity of an analyzer toward the stimuli. The sensitivity of the analyzer to stimuli is in perfect conformity with the biological importance of the latter. Other physiological data regarding the analyzer sensitivity and conditional reflexes are described. Two references. Graph.

Institute : The N. N. Burdenko Central War Hospital

Presented by : Academician K. M. Bykov, April 15, 1954

Gyurdzian, A. A.
USSR/ Medicine - Physiology

Card 1/1 Pub. 22 - 46/47

Authors : Gyurdzian, A. A.

Title : ~~Change in sensitivity of analyzor to stimulant as result of converting the~~
latter into a conditional reflex impulse.

Periodical : Dok. AN SSSR 101/6, 1145 - 1146, Apr. 21, 1955

Abstract : Experiments were conducted on 14 patients of various ages to determine their physiological reactions during a change in the sensitivity of an audio analyzor toward the stimulant as result of transforming the latter into a conditional reflex impulse. Results obtained are briefly described. One USSR reference (1954). Graph.

Institution : The N. N. Burdenko Main Military Hospital

Presented by: Academician L. A. Orbeli, January 13, 1955

Gyurdzhiyan, A. A.

"Concerning the Influence of Cervical Vagosympathetic Novocain Blockade on the Course of Acute Radiation Sickness in Dogs,"
by A. N. Gamaleya, A. A. Gyurdzhiyan, A. A. Zhgun, and P. V. Simonov, Main Military Hospital imeni Academician N. N. Burdenko, Ministry of Defense USSR, Meditsinskaya Radiologiya, Vol 1, No 6, Nov/Dec 56, pp 3-5

Ten pairs of dogs were subjected to total X-ray irradiation by doses causing acute radiation sickness (600-700 r). Three to four hours after irradiation novocain blockade was produced by 30-70 ml of a freshly prepared 0.5% solution of novocain.

The results showed that cervical vagosympathetic novocain blockade did not exert any positive influence on the course of acute radiation sickness at a severe stage in dogs, and so cannot be regarded as a therapeutic agent in overcoming radiation injuries during the severe stage of acute radiation sickness. (U)

SYM 1322

51. Effect of Ionizing Radiation on the Activity of Penicillin Studied

"The Effect of Ionizing Radiation on the Activity of Penicillin," by Col A. N. Gamaleya, Medical Service; Capt A. A. Gyurdzhian, Medical Service, Candidate of Medical Sciences; Capt P. V. Simonov, Medical Service, Candidate of Medical Sciences; and L. A. Belyayeva, Voenno-Meditsinskiy Zhurnal, No 11, Nov 56, pp 33-36.

The presented data is based on clinical observations and animal experiments.

The following findings were obtained:

Desiccated penicillin and a solution of it in 0.5% novocain are resistant to the action of X-rays in doses from 100 to 100,000 r. Therapeutic doses of penetrating radiation do not lower the concentration of penicillin in the blood serum of irradiated patients. General external X-irradiation of a rabbit with a dose of 1,000 r does not lower the concentration of penicillin in the blood serum of the animal. The presence of radioactive phosphorus (P 32) and iodine (I 131) (beta and gamma irradiation) in doses from 10-20 mc (internal irradiation) does not reduce the concentration of penicillin in the blood serum of the experimental animal. (U)

Sum 1956

Gyurdzhian, A.A.

USSR/Optics - Physiological Optics.

K-9

Abs Jour : Referat Zhur - Fizika, No 3, 1957, 8065

Author : Gyurdzhian, A.A.

Inst : Institute of Evolution Physiology and Pathology of the

Higher Nervous Activity, Academy of Medical Sciences, USSR

Title : Course of Dark Adaptation After "Fatigue" of the Eye to
Various Spectral Stimuli.

Orig Pub : Dokl. AN SSSR, 1956, 107, No 4, 537-540

Abstract : Results of the study of the dark adaptation after preliminary "fatigue" of the eye for five minutes by some monochromatic stimulus are given. It has been observed that fatigue to the long-wave spectral stimuli reduces the light sensitivity less than all other equally-bright stimuli. Fatigue to the short-wave stimuli is characterized by the opposite action. At the same time, the greatest reduction in the light sensitivity is caused by long-wave fatiguing stimuli, and the least by the short-wave ones. A close connection is noted between the curves of dark adaptation for light and color sensitivity.

Card 1/1

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GYURDZHIAN, A.A.

612.843.32 : 612.843.313
9153. ADAPTATION OF THE LIGHT- AND COLOUR-
PERCEPTION APPARATUS OF THE EYE. A.A. Gyurdzhian.
Dokl. Akad. Nauk SSSR, Vol. 107, No. 3, 405-6 (1956). In
Russian.

Presents the results of measurements of the light and colour (spectral) sensitivity of the retina periphery, carried out immediately after the eye has become adapted to different spectral stimuli of equal brightness. The apparatus consists of two analogous parts: (1) the so-called "fatigue" device, for bringing about the light adaptation to spectrum and white stimuli, and (2) the monochromatic adaptometer or sensitometer for determining the thresholds of sensitivity. Each part consists of a monochromatic source, a set of light filters and wedges, and other accessories. In tests, a 60° portion of the retina was subjected to adaptation, the sensitivity being determined for a 5° sector, ca. 15° from the retina centre along the temple semi-meridian. Eight spectrum sectors (between 4360 and 6900 Å) and white light were used for the adaptation and determination of sensitivity. The equalization of brightness was attained by heterochromatic photometry on a flicker photometer. After a 3-5 minute adaptation the sensitivity thresholds (light and colour) to the first stimulus (4360 Å) were determined; the adaptation was then continued for 1-2 minutes, after which the sensitivity was determined for the next wavelength, and so on. Results obtained in 100 tests with 2 persons were plotted on suitable coordinates. It was found that: (1) different parts of the spectrum have a different

GYURDZHIAN, A. A.

value as adaptation stimuli, the adaptation effect varying continuously with the wavelength, and (2) the effect of different adaptation stimuli on the light sensitivity gives a picture completely different from that of the same stimuli on the colour sensitivity. Two graphs provide some quantitative data on the relationship between the light (total) and colour sensitivity on one hand, and the wavelength of the stimuli used on the other.

F. Lachman

2/2

GAMALEYA, A.N.; GYURDZHIAN, A.A.; ZHGUN, A.A.; SIMONOV, P.V.

Treatment of acute radiation sickness in dogs with drip transfusion of blood [with summary in English]. Med.rad. 2 no.6:56-61 N-D '57.

(MIRA 11:2)

1. Iz otdeleniya luchevoy terapii (nach. A.N.Gamaleya) i eksperimental'noy laboratorii (i.o.nzh. - kandidat meditsinskikh nauk A.A.Gyurdzhian) Glavnogo voyennogo gosspitalya imeni akad. N.N.Burdenko Ministerstva oborony SSSR.

(ROENTGEN RAYS, eff.

total body irradiation, eff. of drip blood transfusion on survival of dogs)

(BLOOD TRANSFUSION, exper.

eff. on survival of dogs after total body x-irradiation)

GAMALEYA, A.N.; GYURDZHIAN, A.A.; KOSHKIN, A.F.; NEKRASOV, V.P.; SIMONOV, P.V.

Characteristics of the postoperative period in acute radiation sickness in dogs. Med. rad. 4 no.4:64-70 Ap '59. (MIRA 12:7)

1. Iz otdeleniya luchevoy terapii (nach. A.N. Gamaleya) i eksperimental'noy laboratorii (nach. - kandidat med. nauk A.A. Gyurdzhian) Glavnogo voyennogo gosspitalya imeni akad. N.N. Burdenko.

(ROENTGEN RAYS, effects,

on postop. course in exper. surg. in dogs (Rus))

(SURGERY, OPERATIVE

eff. of x-rays on postop. course in exper. surg. in dogs (Rus))

GYURDZHIAN, A.A.

37201

17

S/560/61/000/011/007/012
E027/E635

272400

AUTHORS: Zhukov-Verezhnikov, N.N., Mayskiy, I.N.,
Yazdovskiy, V.I., Pekhov, A.P., ~~Gyurdzhian, A.A.~~
Nefed'yeva, N.P., Kapichnikov, M.M., Podoplelov, I.I.,
Rybakov, N.I., Klomparskaya, N.N., Klimov, V.Yu.,
Novikov, S.N., Novikova, I.S., Petrov, R.V.,
Sushko, N.G., Ugryumov, Ye.P., Fedorova, G.I.,
Zakharov, A.F., Vinogradova, I.N., Chamova, K.G.
and Buyko, Ye.A.

TITLE: The results of the first microbiological and
cytological experiments in Space in Earth satellites

SOURCE: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli.
no. 11. Moscow, 1961. Rezul'taty nauchnykh
issledovaniy, provedennykh vo vremya poletov vtorogo
i tret'yego kosmicheskikh korabloy-sputnikov, 44 - 67

TEXT: The authors report the results of their investigations
of biological objects which had been exposed to space conditions
in satellite vehicles. The first part of the work was devoted
to a study of the survival of cells of differing levels of
organisation under the influence of radiation and other
Card 1/5

11

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E027/E635

The results of the ---

unfavourable factors, in comparison with control materials which remained in the laboratory over the same period. In experiments with bacteria 2ml. samples of suspensions of *Escherichia coli*, *Aerobacter aerogenes*, *Staphylococcus aureus* and *Clostridium butyricum* containing 500 million organisms or spores per ml. were sealed in ampoules, and exposed to a space flight of unstated duration; the number of viable individuals after the exposure did not differ significantly from the values for the control samples. A similar experiment was carried out with the T2 phage of *E. coli* and the 1321 phage of *A. aerogenes*, which were sent in the second satellite; again, no significant reduction in the titre of the phage preparations could be detected after return from space. Similar results were obtained with preparations of phage sent into space in the fourth and fifth satellites. Two bottles and six tubes of HeLa cells, some of which were saturated with oxygen, were exposed to space flight

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E027/E635

The results of the . . .

conditions, after it had first been shown that vibration and acceleration did not detach the cells from the glass. The cultures without oxygen appeared normal on return, whereas in those exposed to oxygen most of the cells had degenerated. Subculture showed that 90% of the cells, whether detached from or remaining on the glass, were dead; however, two tubes gave good growth, and the cells which grew up showed no abnormalities of morphology. No antigenic differences could be detected in the cells in anaphylaxis and desensitization experiments in guinea-pigs. In subsequent space flights fibroblast and human amnion cell cultures were studied, with similar results. Pieces of human and rabbit skin were also used. On August 12th 1960 two pieces of skin 2.5 x 3.5 cm. in size and 0.5 mm. thick were taken from a human donor, placed in Hanks solution and sent into space in the second satellite. On recovery they were regrafted on the original site in the donor and became firmly attached after seven days.

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The results of the ---

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Similar results were obtained with two other donors. An apparatus was devised for making a subculture in space, in order to study the ability of bacteria to multiply under space conditions. In experiments with *Glostridium butylicum* no deviations from the controls were observed. The second part of the work was devoted to a study of possible genetic effects brought about by exposure to space conditions, mainly by looking for the production of auxotrophic mutants and lysogeny in bacteria. The former were detected by inoculation on a layer of minimal medium which was then covered with an overlay of the same medium in order to fix the colonies. When the latter had grown up their position was noted and an overlay of complete medium was then put on, and the colonies which then grew up as a result of the diffusion of essential nutrients were selected as auxotrophic mutants. No such mutants could be found in suspensions of *Escherichia coli* recovered from the second satellite. The experiments on the induction of lysogenic bacteria were carried out on a strain of *E. coli* lysogenized by a λ phage which had been exposed to cosmic

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The results of the ---

S/560/61/000/011/007/012
EO27/E635

radiation in the fifth satellite. Free phage particles were removed by adding phage antiserum; after the end of the latent period the action of the antiserum was cut short by diluting 1:100, streptomycin was added to inhibit the host organisms, and the mixture was plated out on the indicator strain in order to count the phage particles produced. The results obtained, considered in comparison with control experiments, provided no evidence of induction by cosmic radiation during a space flight of ninety minutes. No difference was observed in the plaque morphology. No changes could be detected in the chemical and physical properties of calf thymus deoxyribonucleic acid recovered after a space flight. The results as a whole indicate that no damage was suffered by isolated cells during a brief exposure to space conditions. There are 6 figures and 10 tables.

SUBMITTED: May 23, 1961

Card 5/5

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27.6320
27.5100

37103

S/560/61/000/011/009/012
E027/635

AUTHORS:

Gyurdzhian, A.A., Demin, N.N., Korneyeva, N.V.,
E'vova, T.S., Tutochkina, L.T., Uspenskaya, M.S.,
Fedcova, T.A.

TITLE:

Some aspects of metabolism in animals which have
undergone a space flight

SOURCE:

Akademiya nauk SSR. Iskusstvennyye sputniki Zemli.
no. 11. Moscow, 1961. Rezul'taty nauchnykh
issledovaniy, provedennykh vo vremya poletov vtorogo
i tret'yego kosmicheskikh korabley-sputnikov, 78 - 86

TEXT:

The authors have studied biochemical processes in dogs during training and after flights in rockets and satellite vehicles particular attention being devoted to those processes which are affected by stress conditions and by exposure to ionizing radiation. The dogs were first adapted to space flight conditions, in which they were exposed to vibrations of frequency 70 cycles and amplitude 0.4 mm continued for up to 12 minutes, and to

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E027/635

Some aspects of ---

accelerations of 6-9 g continued for 5 - 12 minutes. Eighteen dogs were studied in all, of which five made space flights in 1958-59 while thirteen remained on the ground. The dogs Belka and Strelka were investigated before the flight and 2, 6, 13, 23, 25 and 32 days afterwards. One dog (Otvazhnaya) made five flights. Two rats and five mice of the C57 line were also studied after a flight in the second satellite. In the dogs, determinations were made of the fractional composition of the serum proteins, the serum mucoids, pseudocholinesterase activity, and the content of free and bound 21-hydroxy-20-kestosteroids in the urine. During the training period marked fluctuations occurred in the serum proteins, both in the animals which made space flights and in the others. After acceleration in the centrifuge a rise in cholinesterase activity occurred, reaching a peak after two days and then declining, and there was also a rise in the content of serum mucoids and a fall in the total protein content of the serum. Similar, but less marked effects, were observed after exposure to vibration. A rise in serum mucoids occurred two to six days

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Some aspects of ---

after return from a space flight, and after six days there was a rise in the total serum proteins. No definite changes were observed in cholinesterase activity. From a consideration of the results three states could be distinguished in the animals in response to training and space flights: (1) activation of functions; (2) a dystrophic condition, and (3) a reaction of stress type characterized by a reversible inhibition of functions. In investigations of the urine no particular changes were noted in the volume or the specific gravity during training or after a space flight. A decrease in the content of deoxycytidine was observed in Belka and an increase in Strelka. After exposure to vibration and acceleration an increase of deoxythymidine and Dische-positive substances in the urine was observed in Otvazhnaya. One month later the levels of both had returned to normal. A fall in the Dische-positive substances to 50% of the control values was found in the urine of five mice five days after a space flight in the second satellite. It was concluded that

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E027/635

Some aspects of ---

the results indicated the occurrence of disturbances in the metabolism of deoxyribonucleic acid after a space flight, but that these disturbances were temporary and reversible. The responses of the animals resembled a stress reaction rather than radiation damage. There are 6 figures and 2 tables. ✓

SUBMITTED: May 23, 1961

Card 4/4

GYURDZHIAN, A.A. (Moskva)

Certain problems with regard to conditions necessary for vital activities during space flights; nutrition, water supply, air regeneration, assanation. Usp. sovr. biol. 51 no.1:74-83 Ja-F '61. (MIRA 14:3)

(SPACE BIOLOGY)

GYURDZHIAN, A.A.,

Recent data on the physiology of light and color sensitivity of the eye obtained in experiments with santonin. Dokl. AN SSSR 137 no.2: 472-475 Mr '61. (MIRA 14:2)

1. Predstavleno akademikom V.N. Chernigovskim.
(VISION) (SANTONIN)

VOLYNKIN, Yu.M.; YAZDOVSKIY, V.I.; GANNIN, A.M.; VASIL'YEV, P.V.;
GYURDZHIAN, A.A.; GURCOVSKIY, N.M.; GORBOV, F.D.; SERYAPIN,
A.D.; BELAY, V.Ye.; BAYEVSKIY, R.M.; ALTUKHOV, G.V.;
KOPANEV, V.I.; KAS'YAN, I.I.; YEGOROV, A.D.; SIL'VESTROV,
M.M.; SIMPURA, S.F.; TERENT'YEV, V.G.; KRYLOV, Yu.V.; FOMIN,
A.G.; USHAKOV, A.S.; DEGTYAREV, V.A.; VOLOVICH, V.G.;
STEPANTSOV, V.I.; MYASHNIKOV, V.I.; YAZDOVSKIY, V.I.; KASHIN,
P.S., tekhn. red.

[First space flights of man; the scientific results of the
medicobiological research conducted during the orbital
flights of the spaceships "Vostok" and "Vostok-2"]Pervye
kosmicheskie polety cheloveka; nauchny rezul'taty mediko-
biologicheskikh issledovaniy, provedennykh vo vremia orbi-
tal'nykh poletov korablei-sputnikov "Vostok" i "Vostok-2."
Moskva, Izd-vo Akad. nauk SSSR, 1962. 202 p. (MIRA 15:11)
(SPACE MEDICINE) (SPACE FLIGHT TRAINING)

S/865/62/001/000/002/033
E028/E185

AUTHOR: Gyurdzhian, A.A.
TITLE: Radiobiological problems of space flight
SOURCE: Problemy kosmicheskoy biologii. v.1. Ed. by
N.M. Sisakyan. Moscow, Izd-vo AN SSSR, 1962, 27-103
TEXT: Existing information on the physical and medical
aspects of space flight is reviewed in considerable detail, and a
bibliography of nearly 300 references to both Soviet and Western
literature is given. The individual sections deal with general
aspects of the physics of cosmic radiation, radiation belts around
the Earth, the interaction of cosmic radiation with the
environment, the intensity and structure of the ionization
produced by it in the tissues, the principles of physical
protection against cosmic radiation, methods of investigating and
defining its biological effect, particular aspects of the
biological effect and of the ionization produced in the tissues,
the effect of the heavy particles, the genetic effect, the
combined action of cosmic radiation and other flight factors,

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Radiobiological problems of space ...

S/865/62/001/000/002/033
E028/E185

general biological problems, and the results of experiments on the biological effect of cosmic radiation, carried out in terrestrial laboratories and in space vehicles. There are 21 figures and 6 tables.

Card 2/2

ZHUKOV-VEREZHNIKOV, N.N.; MAYSKIY, I.N.; YAZDOVSKIY, V.I.; PEKHOV, A.P.;
RYBAKOV, N.I.; KLEMPARSKAYA, N.N.; GYURDZHIAN, A.A.; TRIBULEV,
G.P.; NEFED'YEVA, N.P.; KAPICHNIKOV, M.M.; PODOPLELOV, I.I.;
ANTIPOV, V.V.; NOVIKOVA, I.S.; KOP'YEV, V.Ya.

Problems of space microbiology and cytology. Probl.kosm.biol.
1:113-136 '62. (MIRA 15:12)
(SPACE MICROBIOLOGY) (CYTOLOGY)

GYURDZHIAN, A.A.; DEMIN, N.N.; TUTOCHKIN, L.T.; USPENSKAYA, M.S.;
FEDOROVA, T.A.

Biochemical investigation of the blood and urea of animals after
the flight in a spaceship. Probl.kosm.biol. 1:152-160 '62.
(MIRA 15:12)

(BLOOD--ANALYSIS AND CHEMISTRY)
(SPACE FLIGHT--PHYSIOLOGICAL EFFECT)
(URINE--ANALYSIS AND PATHOLOGY)

S/865/62/001/000/015/033
E028/E185

AUTHORS: Antipov, V.V., Bayevskiy, R.M., Gazenko, O.G.,
Genin, A.M., Gyurdzhian, A.A., Zhukov-Verezhnikov, N.N.,
Zhuravlev, B.A., Karpova, L.I., Parfenov, G.P.,
Seryapin, A.D., Shopolev, Ye.Ya., Yazdovskiy, V.I.

TITLE: Some results of medical and biological investigations
in the second and third satellites

SOURCE: Problemy kosmicheskoy biologii. v.1. Ed. by
N.M.Sisakyan. Moscow, Izd-vo AN SSSR, 1962. 267-284

TEXT: The maintenance of life conditions is discussed with
special reference to the second Soviet satellite. During the
flight the proportion of oxygen in the air of the cabin could be
maintained at 21 to 24%, whereas the relative humidity rose from
37 to 47%. The temperature ranged from 16 to 19°C. Water and
food were provided together in a mixture solidified with agar, in
order to facilitate automatic dispensing in conditions of weight-
lessness. This was carried out twice daily by command signals
from Earth. Telemetric recording of the physiological parameters
of the dogs Belka and Strelka during space flight showed the
Card 1/2

S/865/62/001/000/020/033
E028/E185

AUTHORS: Gazenko O.G., Gyurdzhian A.A., and Zakhar'yev, G.A.

TITLE: A sanitary appliance in a space capsule

SOURCE: Problemy kosmicheskoy biologii. v.1. Ed. by
N.M. Sisakyan. Moscow, Izd-vo AN SSSR, 1962. 328-335

TEXT: The authors have developed a sanitary appliance to be worn by dogs during space flights. It consists of a one-piece garment of rubberized fabric adjustable by straps, with appropriate holes for the head, limbs and tail. The rear end is provided with an obturating ring which fits closely around the pelvis. A tube-like extension leads from this to a fixed tank in which the urine and faeces are collected separately. The appliance functioned satisfactorily and was well tolerated in 20-day laboratory experiments; it was subsequently used on the dog Layka during an actual space flight.
There are 6 figures.

Card 1/1

S/865/62/001/000/021/033
EO28/E185

AUTHORS: Gazenko, O.G., and Gyurdzhian, A.A.

TITLE: Fixation of an animal in a space capsule; a fabric harness, and the arrangement of sensors for the recording of physiological functions

SOURCE: Problemy kosmicheskoy biologii. v.1. Ed. by N.M. Sisakyan. Moscow, Izd-vo AN SSSR, 1962. 336-344

TEXT: A fabric harness for affixing sensors to the body of a dog during space flight has been developed. It consists of two pieces which fit over the head and forelimbs and hindquarters respectively, and are joined by straps. A pocket in the neck piece accommodates the sensor for recording pulse rate and arterial pressure. The harness is fixed to the surroundings with chains which permit free movement of the animal while at the same time preventing traction on the sensor leads. It was well tolerated for periods of up to 20 days, and was used on the dog Layka during the second space flight.

There are 8 figures.

@ Card 1/1

BALAKHOVSKIY, I.S.; GAZENKO, O.G.; GYURDZHIAN, A.A.; GENIN, A.M.;
KOTOVSKAYA, A.R.; SERYAPIN, A.D.; YAZDOVSKIY, V.I.

Results of investigations in an artificial satellite. Probl.
kosm.biol. 1:359-370 '62. (MIRA 15:12)
(SPACE FLIGHT---PHYSIOLOGICAL EFFECT)

S/865/62/001/000/026/033
EO28/E485

AUTHORS: Baranovskaya, I.V., Gyurdzhian, A.A.
TITLE: Containers for certain biological materials used in experiments in satellites
SOURCE: Problemy kosmicheskoy biologii. v.1. Ed. by N.M.Sisakyan. Moscow, Izd-vo AN SSSR, 1962. 405-407
TEXT: Containers for housing biological test materials during space flights are described. They are constructed in plexiglass, a material which does not afford any protection against ionizing radiation. (1) A container for Tradescantia consists of 2 cylinders 150 to 170 mm in length and 70 to 75 mm in diameter, which fit together to form a closed pot. The plant is grown in garden soil in the bottom half and the soil is kept in position with a layer of gauze and a metal grid. (2) Drosophila is kept in conical or pyramidal flasks of diameter 50 to 60 mm and height 75 to 95 mm. A layer of nutrient medium is placed on the bottom. (3) Seeds are kept in square boxes of side 60 to 70 mm and depth 10 to 15 mm. (4) Cultures of Actinomyces or Chlorella are grown in the appropriate media in stoppered tubes 180 mm in
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S/865/62/001/000/027/033
E028/E485

AUTHORS: Baranovskaya, T.V., Gyurdzhian, A.A.

TITLE: Provision of conditions for the prolonged flight of mice in a space ship

SOURCE: Problemy kosmicheskoy biologii. v.1. Ed. by N.M.Sisakyan. Moscow, Izd-vo AN SSSR, 1962. 408-411

TEXT: A container for housing mice during space flights is described, consisting of a rectangular box of sides 17 x 12 x 12 cm made of 5 x 5 mm wire mesh, one end of which is detachable. To the sides and top are fixed 8 cylindrical food containers, 16 mm in diameter, equal in length to the box. A slit 10 mm in width runs along the greater part of each container to allow the mice to gain access to the food. To the back end of the box is fixed a square water tank holding 250 to 300 ml. An S tube leads from the water tank to the interior of the mouse box and is occupied by a wick which allows water to escape from its end at the rate of 1 to 2 drops per minute. Food pellets of special composition are loaded into the food containers. Ten to fifteen mice may be placed in the box and in laboratory experiments it was possible to

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Provision of conditions ...

S/865/62/001/000/027/033
E028/E485

maintain them in good health for 10 to 15 days. The container was used successfully during the second and subsequent space flights. There is 1 figure.

Card 2/2

S/865/62/002/000/010/042
D405/D301

AUTHOR: Gyurdzhian, A.A.

TITLE: Study of biological effect of cosmic radiation on space ships

SOURCE: Problemy kosmicheskoy biologii. v. 2. Ed. by N. Sisakyan and V. Yazdovskiy. Moscow, Izd-vo AN SSSR, 1962, 93-96

TEXT: This article was presented at the 10th European Congress on Aviation and Space Medicine, Paris, 26-30 September 1961. In the experiments on space ships the following species of the animal and plant world were tested (the specimens were at different stages of development and had different radiation sensitivity): dogs, mice, rats and guinea pigs; insects (*Drosophila* flies); plants, such as grains, peas, maize, ranunculus (*Nigella*); *Chlorella* algae; microbiologic and cytologic specimens; bacteria; also pieces of human and rabbit skin, which were reimplanted after the flight on the donors; desoxyribonucleic acid, etc. Special automatic devices (bioelements)

Card 1/3

Study of biological effect ...

S/865/62/002/000/010/042
D405/D301

permitted obtaining (by telemetry) data on the life process of some bacteria during the flight. The dosimetric instruments which were installed in the cabin of Space Ship II showed that the total dose of absorbed radiation inside the space ship was about 10 mrad per day. No artificially induced radioactivity was detected. Clinical examinations of the dogs, rats, mice and guinea pigs immediately after the flight and later on did not reveal anything unusual in their general state and behavior. Biochemical and immunological investigations of the dogs showed the transitory stress reaction. The conditional reflex activity of the rats was not affected by the flight. The microbiological and cytological investigations had the double purpose of studying life conditions in space and the genetic changes due to space factors. The flight conditions had no appreciable effect on the microbiological and cytological objects. In the mice, some chromosome aberrations were observed; two lines of *Drosophila* exhibited a slight increase in the frequency of mutations. On the other hand, growth stimulation was observed in the spores of *Actinomyces* and in the dry seeds of *Nigella* and *Allium*. Laboratory tests showed that vibrations caused genetic changes in *Droso-*

Card 2/3

Study of biological effect ...

S/865/62/002/000/010/042
D405/D301

phila and mice, similar to those occurring in flight; the problem of the genetic effect of mechanical flight conditions requires further study. In conclusion, space flight presents no radiological hazard to man; however, this applies only to actual flight conditions on space ships (orbit, flight duration, solar activity, radiation protection of space ship, etc.)

Card 3/3

ZHUKOV-VEREZHNICOV, N.N.; MAYSKIY, I.N.; YAZDOVSKIY, V.I.; PEXHOV, A.P.;
GYURDZHIAN, A.A.; RYBAKOV, N.I.; ANTIPOV, V.V.

Microbiological and cytological studies in spaceships. Probl.
ksom.biol. 2:140-148 '62. (MIRA 16:4)
(SPACE BIOLOGY)

Z/040/62/000/010/001/002
D006/D102

AUTHOR: Gyurdiyán, Armen, Candidate of Medical Sciences, Scientific
Commentator of the Novosti Press Agency

TITLE: Men in space

PERIODICAL: Letecky obzor, no. 10, 1962, 322-323

TEXT: This is a brief, popular review of the development of space biology and medicine for more than ten years, climaxing in the prolonged orbital flight of Andriyan Nikolayevich and Pavel Popovich aboard the Vostok-3 and Vostok-4 spacecraft, respectively. During this flight the astronauts received not only concentrated food from squeeze-tubes, but also fresh food which will be mandatory in long-duration space flights. Light-weight sensors, designed as not to impede the astronauts' freedom of movement, constantly monitored their brain functions, galvanic reflexes of the skin, movements of the eyeballs, and numerous other functions. The astronauts performed special physiological and psychological tests according to a given schedule. To this end they unstrapped themselves from their seats and per- ✓

Card 1/2

Men in space.

Z/040/62/000/C10/001/002
D006/D102

formed prescribed movements in the spacecraft. Constant radio connection with the ground prevented the development of a feeling of isolation in the astronauts. Prior to the launching of the spacecraft, the solar activity was closely observed so as to select a period with the least radiation. Special dose rate meters were installed aboard the spacecraft, and insects, plants and seeds were carried along to serve as biological dose rate meters. Further research in space biology and medicine will permit the solution of many important biological problems, such as existence of life in space; history of life development; possibility of transferring life forms from one celestial body to another; the significance of the gravitation field for the development and existence of organisms; and the influence of zero gravity and increased gravity on life. ✓

Card 2/2

S/560/62/000/012/008/014
I015/I215

AUTHOR: Gyurdzhian, A.A.

TITLE: The biological effect of cosmic radiation

SOURCE: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli,
no.12, Moscow, 1962, 77-104

TEXT: This is a review article with the following subheadings: the relative biological activity (REA) of the various rays; some characteristics of the biological effect of ionizing particles of the cosmic radiation; some characteristics of ionization of body tissues by particles of cosmic radiation; the biological effect of the heavy particles of cosmic radiation; the genetic effect; the combined effect of cosmic radiation and other factors present during space flight; some problems of general biology; the experimental (on Earth) study of the biological effect of cosmic radiation; the study of the biological effect of cosmic radiation in flight experiments; biological experiments on space ships-sputniks. There are 2 figures, 2 tables and 196 references.

SUBMITTED: May, 1961
Card 1/1

GYURDZHIAN, A.A., kand.med.nauk

Life in a space ship. Zdorov'e 8 no.10:4-5 0 '62. (MIRA 15:10)
(SPACE FLIGHT)

ACCESSION NR: AT4042653

S/0000/63/000/000/0056/0060

AUTHOR: Baranov, V. I.; Gyurdzhian, A. A.; Lomova, M. A.; Radkevich, L. A.; Tutochkina, L. T.; Fedorova, T. A.; Furayeva, L. P.; Khn'chev, S. S.; Artem'yeva, N. S.

TITLE: The effect of gravity on the development of organisms

SOURCE: Konferentsiya po aviatsionnoy i kosmicheskoy meditsine, 1963. Aviatsionnaya i kosmicheskaya meditsina (Aviation and space medicine); materialy konferentsii. Moscow, 1963, 56-60

TOPIC TAGS: gravity, centrifuge, organism development, physiological function, rat, chronic centrifugation, blood composition, urine composition, Coriolis acceleration

ABSTRACT: In this investigation, Baranov and his co-workers designed a centrifuge for small animals with an arm radius of 135 cm which could be regulated to produce artificial gravitational fields of from 4 to 5 g. The centrifuge was arranged in such a way that the arms and cages at the end of the arms would simultaneously rotate around their axes producing Coriolis accelerations. A single control panel

ACCESSION NR: AT4042653

and creatinine (60%) were lower than in the control animals. Finally, the estral cycle of experimental females was significantly altered, though one female gave normal birth to young. In the second investigation, control animals exposed to brief accelerations of 5 g showed noticeable increases in the level of non-esterified fatty acids, decreases in serum mucoid composition, and increases in the albumin-globulin ration. However, at 20 g there was an increase in serum mucoid composition and a decrease in the albumin-globulin ration. Biochemical variations in experimental animals subjected to the same accelerations were insignificant. The authors conclude that gravity plays a complex role in the physiological processes of the developing organism but that the true mechanism of this role is far from being understood.

• ASSOCIATION: none

SUBMITTED: 27Sep63

ENCL: 00

SUB CODE: LS

NO REF SOV: 000

OTHER: 000

Card 3/3

VOLYNKIN, Yu.M.; GOZULOV, S.A.; GYUREZHIAN, A.A.; YEREMIN, A.V.; YUGANOV, Ye.M.

Some problems in current aviation medicine; a review of the literature.
Voen. med. zhur. no. 2:61-66 '63. (MIRA 17:9)

GYURDZHIAN, A.A.; YEREMIN, A.V.

Tenth European congress on aviation and space medicine. Izv.
AN SSSR, Ser. biol. 28 no.1:138-145 Ja-F'63. (MIA 16:8)
(AVIATION MEDICINE--CONGRESSES) (SPACE MEDICINE--CONGRESSES)

L 17548-63 EWT(1)/BDS/ES(a)/ES(j)/ES(c)/ES(k) AMD/AFFTC Pb-4 A/DD
 ACCESSION NR: AP3004436 S/0020/63/151/004/0982/0985

AUTHORS: Gyurdzhian, A. A.; Lomova, M. A.; Radkevich, L. A. 63

TITLE: Quantity of non-esterified fatty acids in the plasma of rats subjected to acceleration

SOURCE: AN SSSR. Doklady*, v. 151, no. 4, 1963, 982-985.

TOPIC TAGS: fatty acid, plasma, acceleration.

ABSTRACT: White male rats, weighing 130-160 g, were subjected to accelerations of 2, 5, and 20g (in some cases 10, 15, 25, and 30g) for 5 min. Immediately after deceleration or after 30 min, or 2, 4, or 24 hrs, blood was obtained from rats by decapitation. Determination of non-esterified fatty acids (NEFA) in plasma immediately after deceleration showed that the level of these substances was elevated in all rats except those subjected to 30g acceleration. An acceleration of 2g produced a 19% increase in the NEFA level, while accelerations of 5-25g produced almost identical increases (35%). This increase was more marked if determinations were made later. A relationship was found in these cases between the rate of acceleration and the increase in the NEFA level. The growth rate was slower in a group of rats subjected to 1.5-2g acceleration every day (except Sundays) for 2.5 months. There were no differences in the NEFA levels in experi-
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L 17548-63

ACCESSION NR: AP3004436

mental and control groups. The response of rats, which had been subjected daily to 2g acceleration, to a single acceleration of 10g for 5 min, as reflected by the increase in the NEFA level, set in considerably later and lasted somewhat longer than in the control group. The authors consider increases in the NEFA level produced by acceleration to be a stress reaction. Orig. art. has: 2 figures.

ASSOCIATION: none

SUBMITTED: 11Feb63

DATE ACQ: 21Aug63

ENCL: 00

SUB CODE: AM

NO REF SOV: 004

ENCL: 008

Card 2/2

L 25798-65 EWG(j)/EWG(r)/EWT(1)/FS(v)-3/EWG(v)/EWG(a)/EWG(c) Po-5 DD/MLK
S/0000/64/000/000/0048/0059

ACCESSION NR: AT5003085

AUTHOR: Gyurdzhian, A. A.; Apanasenko, Z. I.; Baranov, V. I.; Kuznetsova, M. A.; Radkevich, L. A.

TITLE: Effects of prolonged accelerations on the growth of the organism and the functional condition of certain systems

SOURCE: AN SSSR. Institut biologicheskoy fiziki. Vliyaniye ioniziruyushchikh izlucheniye i dinamicheskikh faktorov na funktsii tsentral'noy nervnoy sistemy; voprosy kosmicheskoy fiziologii (Effect of ionizing radiation and dynamic factors on the function of the central nervous system; problems in space physiology). Moscow, Izd-vo Nauka, 1964, 48-59

TOPIC TAGS: prolonged acceleration, chronic acceleration, acceleration effect, organism growth, vestibular effect, defensive reflex, rat

ABSTRACT: Half litters of white laboratory rats with their mothers were subjected to accelerations of 2 to 3 G for 4 or 5 hr per day (except Sundays) from the age of 2 to 6 days until the age of 2 to 3 months. The other halves of the litters, placed with foster mothers, served as controls. In all cases the weight of the experimental animals was found to be less than that of the controls. Motor activity was

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ACCESSION NR: AT5003085

higher in the experimental rats during special test rotation than in the control group. When 16 of the animals were subjected to lethal doses of acceleration (LD₅₀, 20 to 25 G for 5 min), no substantial difference was discerned in the effects on experimental and control animals. The effects of acceleration on the vestibular organ were measured by the bioelectric activity of the hind leg muscles. It was found that excitability of the vestibular organ diminished, the latent period was longer, while the duration of the aftereffect was shorter. The bioelectric activity of skeletal muscles in a state of rest was lower in the experimental animals than in the controls. The latent period of the unconditioned defense reflex was longer in the experimental rats than in the controls when the reflex was evoked by a weaker stimulus, and shorter in the experimental rats than in the controls when medium and strong stimuli were used. The pattern of the development of the vestibular and unconditioned reflexes indicates that compensatory adaptation of the voluntary nervous system to environmental conditions occurs in animals raised under conditions of chronic acceleration. Orig. art. has: 9 figures. [BM]

ASSOCIATION: none

SUBMITTED: 08Sep64

ENCL: 00

SUB CODE: PH, 15

NO REF SOV: 000
Card 2/2

OTHER: 000

ATD PRESS: 3183

ACCESSION NR. AP4035825

S/0020/64/156/001/0225/0227

AUTHOR: Gyurdzhian, A. A. ; Apanasenko, Z. I.

TITLE: Functional state of the vestibular apparatus in white rats raised under conditions of daily acceleration (centrifugation)

SOURCE: AN SSSR. Doklady*, v. 156, no. 1, 1964, 225-227

TOPIC TAGS: acceleration, acceleration effect, centrifugation, acceleration adaptation, vestibular apparatus, vestibular stimulation, vestibular tonic reaction, bioelectric response, latent period, stimulation aftereffect

ABSTRACT: Half a litter of rats with their mother was exposed to 4—5 hrs of centrifugation daily (except Sundays) from the age of 2—3 days until the age of 2—3 months. The centrifuge had a radius of revolution of 135 cm, a rate of 33 rpm, and a radial acceleration of 2 g. During centrifugation the rats were able to move about their cage, nurse from their mother, and take other food. The other half of the litter, placed with another mother, served as control. The

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ACCESSION NR. AP4035825

experimental animals weighed only 60% to 70% as much as the controls from the 20th to the 50th day, but did not differ in their behavior and motor activity. The functional state of the vestibular apparatus was studied in 17 centrifuged and 17 control rats, using electromyograms (EMG's) of the muscles of the lower extremities as an index. The vestibular apparatus was stimulated by rocking the animals about their long axes 0.6 times a second for 10 sec with a maximum angle of inclination of 25°. Background electrical activity (from EMG's, animals at rest) was less than half as great in the centrifuged animals as in the controls; the EMG smoothed out, with rare pulses not exceeding 5 to 20 v and occasionally dropping to noise level. During vestibular stimulation (rocking), the absolute bioelectric activity of the muscles investigated in the centrifuged animals was 0.4 of that found in the controls. The latent period of the vestibular tonic reaction was 0.5 sec for the centrifuged animals as compared with 0.18 sec for the controls. Weakening of the reaction was also manifested in reduction of the duration of vestibular stimulation aftereffect: about 1.0 sec for the controls, compared to an average 0.24 sec for the centrifuged animals, in

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ACCESSION NR. AP4035825

which, in many cases, no aftereffect at all could be observed. It is concluded that daily prolonged acceleration affects the developing organism, in particular the formation of the functional state of the organ of equilibrium. Further studies may help clarify the role of normal and abnormal gravity as an ecological factor and shed light on the problems of training and adaptation of the body to non-terrestrial gravity conditions.

ASSOCIATION: none

SUBMITTED: 16Dec63

DATE ACQ: 26May64

ENCL: 00

SUB CODE: AM

NO REF SOV: 001

OTHER: 004

Cord 3/3

GYURDZHIAN, A.A.; VOROB'YEV, A.I.

Thirteenth International Congress of Aviation and Space Medicine. Izv.
AN SSSR. Ser. biol. no.4:614-623 J1-Ag '65. (MIRA 18:7)

L 1986-66 EWT(1)/FSS-2/FS(v)-3/EEC(k)-2/EWA(d) WVH/TT/RD/GW
ACCESSION NR: AP5022131 UR/0030/65/000/008/0019/0026
613.693

AUTHOR: Gazenko, O. G. (Doctor of biological sciences); Gyurdzhian, A. A.
(Candidate of medical sciences)

TITLE: Medical-biological investigations aboard spacecraft of the
"Voskhod" type

2 SOURCE: AN SSSR. Vestnik, no. 8, 1965, 19-26 34/13

TOPIC TAGS: astronautic personnel, biologic acceleration effect,
biologic deceleration effect, biologic vibration effect, weightless-
ness, psychologic stress, isolation test, flight disorientation,
space radiation hazard

ABSTRACT: A preliminary analysis of medical findings for Voskhod-1
and Voskhod-2 crew members is presented. Medical investigations
consisted primarily of monitoring physiological indices and studying
cosmonaut reactions and work capacity. With a doctor (B. B. Yegorov)
aboard Voskhod-1, additional medical investigations including blood
tests, vestibular analyzer tests, and recording of various bioelectric
data were conducted. Conclusions on the condition of cosmonauts
during flight are based on biotelemetric data, medical tests,

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ACCESSION NR: AP5022131

analysis of two-way radio communications, television observations, and personal accounts. The danger of irradiation effects is ruled out on the basis of dosimetric and biological test data. All five cosmonauts withstood the active part of Voskhod-1 and Voskhod-2 flights very well, with physiological indices showing lesser shifts than for the Vostok series. Thus, from a medical and psychological point of view space flights with a three man crew (Voskhod-1) or two man crew (Voskhod-2) display distinct advantages over one man flights (Vostok series). Even the Voskhod preflight indices were more favorable. An analysis of work performance data for Voskhod-1 and Voskhod-2 crews shows that the work capacity of cosmonauts remains sufficiently high to carry out flight program tasks successfully. Physiological data recorded during flight and postflight physical examinations have not disclosed any basic functional disorders of the organism. However, during flight the appearance of vestibular-vegetative disturbances, fatigue, blood circulation disorders, and metabolic disorders is possible and requires the development of proper preventive and training measures. With improved methods of personnel selection and training and further development of man's capacity to adapt to new conditions using

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L 1986-66

ACCESSION NR: AP5022131

protective devices, space flights of a more complex nature and more prolonged duration are feasible. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: None.

SUBMITTED: 00

ENCL: 00

SUB CODE: PH

NR REF SOV: 000

OTHER: 000

Card 3/3 DP

ACC NR: AT7011643

SOURCE CODE: UR/0000/66/000/600/0001/0006

AUTHOR: Gyurdzhian, A. A.;

ORG: none

TITLE: Combined action of acceleration and hypoxia

SOURCE: International Astronautical Congress. 17th, Madrid, 1966. Doklady. no. 5. 1966. O vliyanií prodolzhitel'nykh uskoreniy na gazoobmen i ustoychivost' k gipoksii u krys, 1-6

TOPIC TAGS: animal physiology, biologic acceleration effect, hypoxia, rat

ABSTRACT:

The combined effects of acceleration and hypoxia on the animal organism were studied using an automated testing unit for gas exchange studies specially developed for these experiments. The apparatus consists of a hermetic chamber for small laboratory animals (in this case, rats) equipped with chemical absorbers for CO₂ and water vapor. Oxygen was fed to the animals automatically as needed. The amount of O₂ used was gaged by the number of times the pressure relay was activated

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ACC NR: AT7011643

or by the intervals between relay operations. The device could be placed on a centrifuge to study the joint effects of acceleration and various gas media. During centrifugation animals were watched on TV and monitored with biosensors. Information about the temperature, pressure, and humidity of the chamber atmosphere was constantly available.

In the first part of the experiment, gas exchange studies were conducted during sustained centrifugation (6 hr to 2 days) of animals at 4--5 and 10 G. Animals were unrestrained and normal gas atmosphere was maintained. Experimental results showed that acceleration produced a 20--35% decrease in gas exchange in experimental animals as compared with controls. A tendency toward progressive decrease in gas exchange with increasing acceleration was noticed, but experimental material was insufficient to prove this conclusion.

Next the resistance of rats to lethal hypoxia in conditions of acceleration was studied by supplying nitrogen to the chamber instead of O₂. Controls were subjected to hypoxia but were not accelerated. The decreased resistance of centrifuged animals to acute hypoxia can be seen in Table 1.

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ACC NR: AT7011642

Table 1. Resistance of rats to "lethal hypoxia" under acceleration conditions

Indices of resistance to hypoxia	Control experiments (without acceleration)	Acceleration, G		
		4	10	18
Length of life of the last rat, min	157	80	91.5	46
Chamber oxygen content at end of the experiment, %	4.0	4.75	5.15	7.7
Amount of oxygen used, arbitrary units	8	7	5.5	—

The combined effects of acceleration and hypoxia were further studied using rats centrifuged daily for 5--6 hr at 2--3 G for the 2--3 months preceding the experiment. Experimental results showed that rats periodically exposed to increased gravity had lower gas exchange coefficients than control animals. Another group of tests (see Table 2) show that gas exchange is somewhat decreased during acceleration.

Table 2. Oxygen consumption in experimental animals subjected to acceleration of 10 G and unaccelerated controls

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Effect of acceleration	O ₂ consumption (liters in 24 hr per kg of weight)		Difference in O ₂ consumption between experimental and control animals	
	control	experimental	liters	%
Without acceleration	69.4	60.6	8.8	12.7
Acceleration of 10 G	43	37.7	5.3	12.3

The temporary nature of the shifts in gas exchange observed in periodically centrifuged animals was demonstrated by tests with these animals 1--2 months after the daily acceleration regime was terminated. It was shown that the resistance of experimental (periodically centrifuged) rats to lethal hypoxia was higher than that of the controls. This is demonstrated by their longer life span in hypoxic conditions and by the lower chamber oxygen content at the end of the experiment. However, the resistance of these experimental animals to lethal acceleration was somewhat lower than that of the controls. Furthermore, experimental animals did not differ

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ACC NR: AT7011643

from controls in their resistance to lethal hypoxia when the magnitude of acceleration was 4 G. It is probable that in this case the greater resistance of experimental animals to hypoxia and their lesser resistance to acceleration cancel each other out.

Earlier studies have shown that under the influence of sustained accelerations, metabolism and energy expenditure are maintained at a lower, more efficient level. Thus, it is not surprising that resistance of rats to hypoxia drops during acceleration. Orig. art. has:

2 tables. [ATD PRESS: 5098-F]

SUB CODE: 06 / SUBM DATE: none / OTH REF: 003

Card 5/5

GYURDZHIYAN, V.M.; PIOTTUKH, Yu.N.

Effect of certain factors on the aerodynamics and heat transfer
in a three-component flow. Izv. SO AN SSSR no.2 Ser. tekhn. nauk
no.1:122-126 '63. (MIRA 16:8)

1. Khimiko-metallurgicheskiy institut Sibirskogo otdeleniya
AN SSSR, Novosibirsk.
(Fluid dynamics) (Heat--Transmission)

L 15347-66 EWT(1)/EWP(m)/EWT(m)/EWA(d)/T/FCS(k) WW/JW/JWD/WE
ACC NR: AP6002017 (A) SOURCE CODE: UR/0288/65/000/003/0097/0104

AUTHOR: Gyurdzhiyan, V. M.; Shabanov, S. I.

ORG: Institute of Physical and Chemical Principles for Processing Mineral Resources,
Siberian Department, AN SSSR, Novosibirsk (Institut fiziko-khimicheskikh osnov per-
erabotki mineral'nogo syr'ya Sibirskogo otdeleniya AN SSSR)

TITLE: Calculation of the combustion³ process for a porous material in Stokes flow conditions

SOURCE: AN SSSR. Sibirskoye otdeleniye. Izvestiya. Seriya tekhnicheskikh nauk, no. 3, 1965, 97-104

TOPIC TAGS: combustion kinetics, combustion theory, flow kinetics, Navier Stokes equation

ABSTRACT: The authors consider heterogeneous reaction of particles in a flow on the basis of the reaction characteristics for a single particle. The case of flow around a porous carbon sphere is studied with regard to variation in the internal reacting surface and the coefficient of diffusion within the sphere at $Re \leq 1$. The mathematical formulation of the problem for quasi stationary isothermal conditions

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UDC: 662.611.541.126

L 15347-66

ACC NR: AP600201'

reduces to a system of Navier-Stokes equations for the space outside the sphere for O_2 , CO and CO_2 respectively. This system of equations is given in spherical coordinates. The system of equations for the space within the sphere and boundary conditions of the problem are given in a previous work. An approximate analytical solution for the problem is given for Stokes flow conditions in the region $2.55 \leq S_m < \infty$ where $S_m = \frac{D Nu}{hd}$ is the Semenov number. An approximate expression is found for the

combustion for particles of semicoke 88.5 μ in diameter. These formulas may be extended to particles of semicoke down to 2 μ in diameter. Analytical calculations for various types of coal show satisfactory agreement with experimental data. Orig. art. has: 5 figures, 23 formulas.

SUB CODE: 20/ SUBM DATE: 17Aug64/ ORIG REF: 013/ OTH REF: 000

Card

2/2

GYURDZHIYAN, V.M.; SHABANOV, S.I.

Calculating the combustion process for a porous material under
Stock flow conditions. Izv. SO AN SSSR no. 10. Ser. tekhn. nauk
no. 3:97-104 '65 (MIRA 19:1)

1. Institut fiziko-khimicheskikh osnov pererabotki mineral'nogo
syr'ya Sibirskogo otdeleniya AN SSSR, Novosibirsk. Submitted
August 17, 1964.

SIMONOV, M.Z., doktor tekhn.nauk; SARKISYAN, R.R., kand.tekhn.nauk;
MANVELYAN, D.S., inzh.; MKHIKYAN, R.M., inzh.; GYURDZHIAN,
A.R., inzh.; MALADZHIAN, P.A.

Manufacturing precast thin-walled articles by guniting. Mekh.
stroi. 18 no.5:16-18 My '61. (MIRA 14:7)

1. Armyanskiy institut stroitel'nykh materialov.
(Reinforced concrete construction) (Gunita)

GYURDZHIAN, A.R., inzh.

Effect of the form of grains in certain natural porous fillers
on the strength of lightweight concrete. Stroi. mat. 8 no.2:
39 F '62. (MIRA 15:3)

(Lightweight concrete)

GYURDZHIAN, V., inzh.

Simple design of a pneumatic clutch. Prom.Arm.4 no.1:40-41
Ja '61. (MIRA 14:6)

(Power presses--Pneumatic driving)

GYURE, D.
(6691)

A Szegedi Tud. Gyogyszertani Intozetonek Kozlemenye. A tannin antihistamin hatasarol
Antihistaminic action of tannic acid Orvosi Hetilap, 1949, 90/6 (176-173)

Tannic acid, administered intraperitoneally to guinea-pigs, showed an antihistaminic action. This could also be demonstrated in vitro. Blood pressure lowering effects of histamine in cats were not counteracted by tannic acid.

Komlos-Budapest

So: Excerpta Medica, Vol. II, No. 12, Sec. II, December 1949

GYURE, Dezso, dr.; DUDAS, Bela, dr.; SZABO, Katalin.

Observations on hepatitis patients. Orv. hetil. 105 no.16:739-
742 19 Ap'64

1. Szegedi Varosi Korhaz, Fertescosztaly.

*

GYUREY, Ferenc, okleveles mernok, irányító tervező; LANCZOS, Pál,
okleveles mernok, egyetemi tanársegéd

Testing the Budapest quays and river walls. Melyepitestud
szemle 14. no. 5:212-216 My '64.

1. Capital Civil Engineering Designing Enterprise (for
Gyurey). 2. Chair of Construction, Technical University of
Building and Transportation, Budapest (for Lanczos).

GYURIAN, Lajos

Ten years of quarrying. Epites szemle 5 no.6:181-185 '61.

1. Epitesugyi Miniszterium Ko- Kavicsipari Igazgatóságának igazgatója.

*

CSETENYI, Janos, okleveles vegyesz; GYURICZA, Jozsef, okleveles kohomernok

Investigation of transit time of the burden as well as the sedimentation conditions of the produced slag by radioisotopes in the Rachette-type copper shaft furnace of the Metallochemia Enterprise. Koh lap:96 no.8:346-348 Ag '63.

1. Orszagos Atomenergia Bizottsag Izotop Intezete (for Csetenyi).
2. Metallochemia (for Gyuricza).

GYURIS, LASZLO, inzhener.

More accurate calculation of arches subject to longitudinal
seismic forces. Transp. stroi. '5 no. 10 19-22 D '55. (MIRA 9:3)
(Arches)

GYURIS, Pal

Work of the Rolling Stock Division. Jarmu mezo gep 5 no.1:
8 Mr. '58.

1. "Jarmuvek - Mezogazdasagi Gepek" szerkeszto bizottsagi tagja.

GYURIS, Pal

New on the life of the Scientific Association of the
Machine Industry. Jarmu mezo gep 4 no.5:247-248 N '57.

1. "Jarmuvek - Mezogazdasagi Gepek" szerkeszto bizottsagi
tagja.

KERTESZ, Rudolf (Budapest); FALUSZ, Erno (Budapest); GURITS, Peter (Budapest)

Forum of innovators. Ujitt lap 17 no.5:30-31 16 Mr '65.

BULGARIA / Human and Animal Morphology - Nervous System. S

Abs Jour : Ref. Zhur. - Biol., No. 22, 1958, No. 101472

Author : Gyurivskiy, A.

Inst : "V. Chervenkov" Medical Academy

Title : Materials Toward a Study of the Morphology of Atypical Forms of Taste Receptors in the Larynx.

Orig Pub : Nauchni tr. Med. akad. "V. Chervenkov", 1953, Vol. 1, No. 1, 29-44

Abstract : The mucosa of the larynx is generously supplied with taste buds (TB) with various types of innervation. TB are found in the greatest numbers along the posterior surface of the epiglottis and the internal surface of the aryepiglottic fold (the reflexogenic zone of Gracheva) and exhibit individual variations. Moreover, there are sometimes found: (1) typical or altered

Card 1/2

GYURJAN, Istvan

"Proteins, bases for life" by Frantisek Sorma. Reviewed by
Istvan Gyurjan. Biol. kozl 10 no.1:70-71 '62.

*

FALUDI, Bela; GYURJAN, Istvan; F.DANIEL, Agnes

The building in of phosphorus into the phosphorus fraction of normal and genetically albino young seedlings of maize. Biol kozl 8 no.1:25-31 '60.

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Author: Inczedy, J., and Gyurko, J.

Institution: None

Title: Production of Hydroxyl Amine by the Raschig Method

Original

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Abstract: The conditions for the production of NH_2OH by the Raschig method have been investigated. The most suited method was found to be one which had been published earlier (L. Urbanek, Mezogazd. Kutatasok, 1933, Vol 6, 334) in which the optimum mole ratio was found to be NaHSO_3 : $\text{NaNO}_2 = 1:1.95$. The effect of pH, temperature, and mixing rate on the production of NH_2OH was investigated. At optimum conditions the yield of end product can exceed 90%.

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sorption by the Pb. In the case of 0.003 cm. thickness, the
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